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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/941,816	08/29/2001	Masahiro Kitamura	15162/03920	7577

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EXAMINER

AGGARWAL, YOGESH K

ART UNIT PAPER NUMBER

2615

DATE MAILED: 03/15/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/941,816

Applicant(s)

KITAMURA ET AL.

Examiner

Yogesh K. Aggarwal

Art Unit

2615

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 13 December 2005.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-18 is/are pending in the application.
- 4a) Of the above claim(s) 17 and 18 is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-16 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____.
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____.

Continued Examination Under 37 CFR 1.114

1. A request for continued examination under 37 CFR 1.114, including the fee set forth in 37 CFR 1.17(e), was filed in this application after final rejection. Since this application is eligible for continued examination under 37 CFR 1.114, and the fee set forth in 37 CFR 1.17(e) has been timely paid, the finality of the previous Office action has been withdrawn pursuant to 37 CFR 1.114. Applicant's submission filed on 12/13/2005 has been entered.

Response to Arguments

2. Applicant's arguments with respect to claims 1-16 have been considered but are moot in view of the new ground(s) of rejection.

Claim Rejections - 35 USC § 103

3. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

4. Claims 1, 4, 5, 9, 12 and 13 rejected under 35 U.S.C. 103(a) as being unpatentable over Applicant's admitted prior art in view of George et al. (US Patent # 5,453,844).

[Claims 1 and 9]

Applicant's admitted prior art teaches an image processing apparatus comprising a synthesizer for generating a blur controlled image with an adjusted blur amount from multiple images having different focal lengths (Paragraph 5) and an image processor for performing a plurality of processes other than blur control on the blur-controlled image generated by the synthesizer

Art Unit: 2615

(Paragraph 6 teaches processes like compression, coring and aperture control). Applicant's admitted prior art fails to teach a changer for changing a degree of the processes that are performed sequentially other than blur control in accordance with the amount of blur.

However George et al. teaches an image taking system in which the amount of blurring and compression depends upon the blurring function (col. 1 lines 66-67) and a digital processor 22 decompresses and deblurs the data utilizing a blurring function generator 24 (col. 4 line 66-col. 5 line 4, figure 1 and 2). George et al. further teaches the process of compression according to the blurring function wherein the original sharp picture $p(x,y)$ is convolved with the blurring function $b(x,y)$ by a two-dimensional (2D) convolution to provide the blurred picture data $g_{sub.b}(x,y)$. This blurred picture is stored in two dimensions in an $n \times n$ pixel array. In the subsampling system the sampler then transmits and/or stores compressed data by coarse scanning the number of pixels transmitted, $n^* \times n^*$. The number of pixels in the product $n^* \times n^*$ may be, for example, $1/2$ to $1/100$ th the number of pixels in the $n \times n$ array (col. 5 lines 17-34, figures 2-4, col. 5 lines 50-53, col. 6 lines 57-65, Also see col. 7 line 63-col. 8 line 6).

Therefore taking the combined teachings of Applicant's admitted prior art and George, it would be obvious to one skilled in the art at the time of the invention to have been motivated to have a changer for changing a degree of the processes that are performed sequentially other than blur control in accordance with the amount of blur in order to provide an improved system for data compression of image representing data using blurred versions of the image thereby maintaining fidelity of the image while requiring fewer pixels than in the original image.

[Claims 4, 5, 12, 13]

Art Unit: 2615

Applicant's admitted prior art teaches that the processor used is a coring processor (Paragraph 8).

George teaches that the blur function $b(x,y)$ is given by (equation 5) in which N is an integer typically from 2 to 250 (col. 6 lines 32-39). George further teaches that the band-limiting envelope BB^* which is equal to N (See Eq. 16) controls the compression. The number of points N determines the amount of high frequency reduction since high frequencies are reduced by a factor of $1/N$ relative to low frequencies (col. 7 line 63-col. 8 line 6). Therefore the amount of reduction in high-frequencies becomes more as the value of N increases i.e. the blur function increases.

5. Claims 2, 3, 10 and 11 are rejected under 35 U.S.C. 103(a) as being unpatentable over Applicant's admitted prior art, George et al. (US Patent # 5,453,844) and in further view of Ikeda (US Patent # 6,421,087).

[Claims 2,3, 10, 11]

Applicant's admitted prior art in view of George teaches that the processor is an image compressor (Paragraph 6) but fails to teach wherein said changer changes the image compression ratio such that the image compression ratio increases as the amount of blur increases. However Ikeda teaches that it is possible to increase the compression factor for chrominance generated through blurring of an image and having a narrow bandwidth (col. 13 lines 41-61) in order to reduce color moiré. Therefore taking the combined teachings of Applicant's admitted prior art, George and Ikeda, it would have been obvious to one skilled in the art at the time of the invention to have been motivated to have a changer changes the image compression ratio such that the image compression ratio increases as the amount of blur increases. The benefit of doing

Art Unit: 2615

so would be to have a synthesized image of high quality and high definition as taught in Ikeda (col. 13 lines 59-61).

6. Claims 6, 7, 14 and 15 are rejected under 35 U.S.C. 103(a) as being unpatentable over Applicant's admitted prior art, George et al. (US Patent # 5,453,844) and in further view of Hata (US Patent # 6,603,508).

[Claims 6, 7, 14,15]

Applicant's admitted prior art in view of George teaches that the processor is an aperture controller (Paragraph 8) but fails to teach wherein said changer changes the amplification ratio such that the amplification increases as the amount of blur increases. However Hata teaches that the CPU increases the gain of the VG amplifier 105 during the blur-avoiding mode in order to determine an optimum exposure (col. 9 lines 61-67, col. 10 lines 1-5). Therefore taking the combined teachings of Applicant's admitted prior art, George and Hata, it would have been obvious to one skilled in the art at the time of the invention to have been motivated to have a changer that changes the amplification ratio such that the amplification increases as the amount of blur increases. The benefit of doing so would be that the blurring during taking of the photograph is avoided.

7. Claims 8 and 16 are rejected under 35 U.S.C. 103(a) as being unpatentable over Applicant's admitted prior art, George (US Patent # 5,764,611) and in further view of Miyawaki et al. (US Patent # 6,522,360).

[Claims 8 and 16]

Applicant's admitted prior art in view of George fail to teach wherein the processor is a gamma corrector and said changer changes a value of gamma correction by the gamma corrector in

Art Unit: 2615

accordance with the amount of blur. However Miyawaki et al. teaches a gamma corrector (figure 1, element 53) which changes a value of gamma correction after the TV-AF circuit 54 indicates the amount of blur in the image (col. 1 lines 36-67, col. 2 lines 1-5) in order to change gamma correction with the amount of blur indicated by the TV-AF circuit. Therefore taking the combined teachings of Applicant's admitted prior art, George and Miyawaki, it would have been obvious to one skilled in the art at the time of the invention to have been motivated to have a gamma corrector and a changer that changes a value of gamma correction by the gamma corrector in accordance with the amount of blur. The benefit of doing so that the user in accordance with can use a fixed area for gamma correction am amount of blur.

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Yogesh K. Aggarwal whose telephone number is (571) 272-7360. The examiner can normally be reached on M-F 9:00AM-5:30PM.

8. If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, David Ometz can be reached on (571)-272-7593. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

9. Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

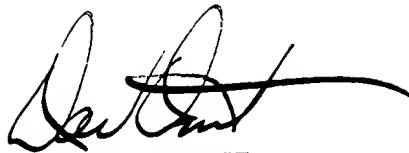
Application/Control Number: 09/941,816

Page 7

Art Unit: 2615

YKA

March 8, 2006

A handwritten signature in black ink, appearing to read 'David Ometz', with a long horizontal flourish extending to the right.

DAVID OMETZ
SUPERVISORY PATENT EXAMINER